

**REMARKS**

In this Amendment, claims 1-11 are canceled, and claim 18 is amended. After entry of this Amendment, claims 12-19 will be pending in the application.

Claim 18 has been amended to recite a cell culture comprising “said carrier for cell culture and said cell layer,” as supported by original claim 17.

No new matter has been introduced.

Entry of this Amendment is respectfully requested.

Further, entry of this Amendment is believed to be proper at this time, because the amendment to claim 18 overcomes the section 102 rejection, thereby at least reducing the issues for appeal.

**I. Response to Claim Rejections Under 35 U.S.C. §102(b)**

At page 2 of the Office Action, claim 18 is rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Hara et al. (U.S. Patent 6,821,107).

Specifically, while the Examiner acknowledges that Hara et al. does not teach a chitosan layer, as recited in independent claim 12, the Examiner states that the chitosan layer of the carrier does not distinguish the cultured product from Hara et al. because claim 18 allegedly does not require the carrier to be present with the cultured product.

Claim 18 has been amended to recite that the cell culture comprises the carrier for cell culture and the cell layer.

Withdrawal of this rejection is requested.

**II. Response to Claim Rejections Under 35 U.S.C. §103(a)**

At page 5 of the Office Action, claims 12-15 and 17-19 are rejected under 35 USC §103(a) as allegedly being obvious over Hara et al. (U.S. Patent 6,821,107) in view of Huguet & Dellacherie, and Clapper et al. (U.S. Patent 5,512,474).

Specifically, the Examiner contends that Hara et al. teach a carrier for cell culture comprising an alginate gel layer formed on a porous membrane, and having an extracellular matrix component layer (collagen).

The Examiner acknowledges that Hara et al. do not teach a carrier for cell culture where the collagen layer is bound to a surface of the water-containing gel by means of chitosan as an intermediate layer.

However, the Examiner contends that Huguet et al. teach a microcapsule suitable for encapsulation of biological materials. The Examiner contends that the microcapsules of Huguet comprise calcium alginate beads that are coated with chitosan as an outermost layer to study the rate of release of biological materials from the encapsulated beads.

In addition, the Examiner contends that Clapper et al. teach a cell culture system comprising a support material for anchorage-dependent cell culture, which comprises a stable combination of a positively-charged molecule, such as chitosan, and a cell adhesion factor such as collagen.

The Examiner reasons that it would have been *prima facie* obvious to modify the carrier for cell culture of Hara et al. such that the collagen gel layer is bound to a surface of alginate by means of chitosan, as allegedly suggested by Huguet et al. and Clapper et al.

Applicants respectfully traverse this rejection because the claimed invention has unexpected by superior properties that are not taught or suggested by the cited references.

The MPEP states that disclosed inherent properties are part of the inquiry in determining whether the invention as a whole would have been obvious. Specifically, MPEP § 2141.02 provides:

In determining whether the invention as a whole would have been obvious under 35 U.S.C. 103, we must first delineate the invention as a whole. In delineating the invention as a whole, we look not only to the subject matter which is literally recited in the claim in question... but also to those properties of the subject matter which are inherent *in the subject matter and are disclosed in the specification*... ("From the standpoint of patent law, a compound and all its properties are inseparable."). *In re Papesch*, 315 F.2d 381, 391, 137 USPQ 43, 51 (CCPA 1963). (emphasis added)

The presently claimed invention has an advantageous feature of being transparent, and thus being particularly suitable for the observation of cells during or after culture. The Specification at page 31 provides:

By culturing cells using the carrier for cell culture of the present invention, a cell array can be easily formed. Further, the carrier for cell culture of the present invention is free from deformation due to swelling in a medium and the like, and thus the carrier enables easy observation of cultured cells under an optical microscope.

Also see Table 2 at page 28 of the Specification, with respect to the observation of cultured cells.

The cited references do not disclose or suggest this beneficial property, and as such, the invention defined by the present claims is not obvious over Hara et al. in combination with Huguet & Dellacherie, and Clapper et al.

Withdrawal of this rejection is therefore requested.

**III. Rejoinder**

Applicants respectfully request rejoinder and examination of claim 16 upon allowance of claim 12.

**IV. Conclusion**

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

  
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